



DGS-IME(I)



Green Shipping Conclave 2025

**At
MCA Club, BKC, Mumbai
On
11th January 2025**



FOR QUERIES – CONTACT: MUMBAI@IMARE.IN MB: 930977647/9920308893



DGS-IME(I) Green Shipping Conclave-2025 (GSC-2025)



श्याम जगन्नाथन, भा.प्र.से.
नौवहन महानिदेशक
एवं अपर सचिव, भारत सरकार
Shyam Jagannathan, I.A.S.
Director General of Shipping &
Additional Secretary to the Govt. of India



सत्यमेव जयते

भारत सरकार
Government of India
पत्तन, पोत परिवहन और जलमार्ग मंत्रालय
MINISTRY OF PORTS, SHIPPING AND WATERWAYS
नौवहन महानिदेशालय
Directorate General Of Shipping



Message

It is with great pleasure that I extend my warm wishes to the Green Shipping Conclave 2025, being organized by the Directorate General of Shipping in collaboration with the Institute of Marine Engineers (India). Green Shipping Conclave is an event that reflects this Directorate's collective commitment to address the pressing challenges of climate change and environmental sustainability in the maritime industry.

The maritime sector, as a key enabler of global trade, must rise to the occasion and take decisive action towards decarbonization and green shipping solutions. The Government of India is fully aligned with the global vision of achieving net-zero emissions in shipping by and around 2050, and through initiatives such as this Conclave, we aim to foster dialogue and innovation that will drive this transformation.

This Conclave brings together industry leaders, policymakers, technologists, and other key stakeholders to discuss the latest advancements in alternative fuels, green ship technologies, sustainable port operations, and the financial mechanisms that can accelerate our green transition. I strongly believe that India, with its growing maritime infrastructure and commitment to sustainability, has the potential to lead the charge in green shipping initiatives not just domestically, but also on the global stage.

As you participate in the discussions and exchanges throughout the event, I encourage you to think creatively and collaborate extensively. Together, we can make meaningful strides towards a sustainable and resilient maritime industry, ensuring that our seas remain a vibrant and vital resource for future generations.

I look forward to the outcomes of this Conclave and the critical contributions from all participants as we chart a course for a greener, more sustainable future in shipping.

(Shyam Jagannathan)
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Photo Courtesy: DGS-INMARCO Green Shipping Conclave -2022

Recap.....

The DGS-INMARCO Green Shipping Conclave 2022, held in Mumbai from 17th to 19th November 2022, marked a defining moment in India's maritime decarbonization journey. Attended by the Honourable Minister of Ports, Shipping and Waterways, Shri.Sarbananda Sonowal, along with senior officials from the International Maritime Organization (IMO) and key stakeholders across the maritime ecosystem—ports, shipyards, fuel producers, technology providers, shipping companies, and classification societies—the event provided an essential forum for introspection on the strengths and challenges of India's maritime industry in meeting the decarbonization mandate, setting the stage for future action.

Building on the success of GSC-2022, the Directorate General of Shipping (DGS), in collaboration with the Institute of Marine Engineers (India) (IMEI(I)), proudly presents the **Green Shipping Conclave 2025 (GSC-2025), scheduled on 11th January 2025**. This highly anticipated event aims to unite industry leaders, policymakers, and innovators to explore solutions and strategies that will help Indian domestic shipping achieve a 5% uptake in alternative fuels by 2030 and set the course for net-zero GHG emissions by 2050.

GSC-2025 offers an unparalleled opportunity for stakeholders to engage in insightful discussions, contribute technical papers, and collaborate on the advancements needed for a sustainable maritime future. As India asserts its leadership in global maritime decarbonization efforts, this conclave will provide a dynamic platform for shaping actionable strategies and fostering cross-industry innovation.



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About GSC-2025.....

Green Shipping Conclave 2025 (GSC-2025) will feature panel discussions, Technical presentation and stakeholder interactive sessions designed to address the advancements required for Indian domestic shipping to achieve a **5% uptake in alternative fuels by 2030** and to pave the path towards **net-zero GHG emissions by and around 2050**. Building on the outcomes of the **Green Shipping Conclave 2022**, these sessions will provide an opportunity to evaluate the progress made and introduce new solutions that have emerged over the last three years.



Photo Courtesy: DGS-INMARCO Green Shipping Conclave -2022

The event will feature five focused panel discussions, addressing key themes such as establishing a green technology baseline, involving non-traditional stakeholders, de-risking access to funding, and accelerating green technology adoption. These discussions will foster cross-industry collaboration, drawing insights from both Indian and international stakeholders, while also exploring the financial and technological pathways required to achieve these ambitious targets.

In addition to the panel discussions, the Conclave will host a **CEO and Policy Maker Forum** and initiate a debate on shaping a Consultative framework for a **Comprehensive Green Shipping Policy for India**. The outcomes will be crucial for tracking progress and identifying areas that require further attention.

We invite the broader maritime community to contribute by presenting technical papers and sharing innovative solutions. Your active participation is essential in shaping the future of sustainable shipping in India.

We look forward to your valuable insights and engagement at GSC-2025.



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Panel Discussion 1: Green Fuels for Maritime India

Following the deliberations on green fuels for the maritime sector during GSC 2022, several key initiatives have been undertaken in India, including the National Green Hydrogen Mission, and Methanol Policies, as well as the National Biofuel Policy. This discussion seeks to revisit the availability of alternative fuels for the shipping sector in India, focusing on their implementation timelines, projected volumes, and associated costs. As part of this evaluation, due consideration will be given to the potential for establishing India as a prominent bunkering hub for green fuels, especially in light of the needs of the foreign-going fleet.

The shipping industry is committed to achieving full decarbonization by 2050, with hydrogen and its derivatives being viewed as the most promising long-term solutions. In the short to medium term, transitional fuels such as bio-mass derived oils and LNG provide an opportunity for substantial GHG emission reductions. India, recognizing this, is prioritizing the expansion of biofuels, methanol, and LNG, with significant growth anticipated by 2030. Moreover, e-fuels are emerging as an area of interest and are expected to play a more prominent role post-2030.

However, to achieve the decarbonization targets, collaborative efforts are essential to address the current imbalance between supply and demand for alternative fuels. This panel discussion will explore these critical issues and provide insights into shaping the future of green shipping in India, charting a strategic course toward sustainable maritime transport.



Photo Courtesy: DGS-INMARCO Green Shipping Conclave -2022

Panel Discussion 2: Green Ships & Green Technology Solutions in India

Building on the discussions from GSC 2022 regarding the diverse availability of green technologies in shipping, the upcoming Conclave will delve deeper into applicable green technologies for a variety of vessel types, including tugs, short-run passenger ships, barges, and offshore vessels in the domestic context. It will assess the progress made by Indian shipyards in constructing green ships and employing alternative technologies on existing vessels in a time-bound and cost-effective manner, aligning with the 'Make in India' initiative to reduce transition costs. Solar and battery hybridization are highlighted as key technologies for both new builds and retrofitting existing vessels. The need to balance export and import sectors is emphasized, focusing on the domestic development of materials, equipment, and components. Efficient ship design will be essential for energy efficiency and competitive production up to 2030, and India could benefit from dedicated innovation funds for shipbuilding research. Leveraging India's skilled workforce, strengthening industrial associations, and forming partnerships across the value chain will be critical in advancing green technology adoption, which offers pathways to decarbonize both short and long voyages, while fostering technological growth through collaborations between shipyards, operators, and ports.



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Panel Discussion 3: Green Ports, Shore Power, JIT-Green Corridor

Taking lead from the deliberations in GSC-2022, this panel will explore the crucial role of green ports in optimizing operations and serving as key hubs for green shipping. The panel will also examine the potential for shore power generation in India, highlighting the need for advanced port technologies. Additionally, it will address the importance of energy-efficient dredgers and harbor crafts, alongside the establishment of Green Corridors through international cooperation.

Green ports are vital to sustainable shipping, acting as centers for green shipping and alternative fuel bunkering, while contributing to carbon sequestration, generating green electricity, and promoting the use of green fuels. Efficient scheduling of port technology and collaboration with port operations partners are essential to minimizing energy costs and reducing emissions. Furthermore, the establishment of Green Corridors through global partnerships is pivotal in driving the energy transition towards zero-emission shipping, reinforcing the collective effort to achieve decarbonization targets.



Photo Courtesy: DGS-INMARCO Green Shipping Conclave -2022

Panel Discussion 4: International co-operations for Green Technology & Green Finance

As highlighted in the GSC-2022, addressing the global challenge of climate change requires robust international cooperation to advance green shipping. The forthcoming Conclave will focus on fostering such cooperation and exploring viable financial models for supporting green shipping in India. Financing green transitions in the shipping industry poses significant risks for investors due to high capital expenditures, fragmented ownership, and technology-related uncertainties. The International Maritime Organization plays a key role in coordinating efforts and sharing knowledge across nations. However, access to affordable commercial banking through green bonds and sustainability-linked financing structures remains constrained. To mitigate these risks, longer-term Total Cost of Ownership models and Public-Private Partnerships (PPPs) offer viable solutions.

Additionally, carbon finance mechanisms can be leveraged to monetize existing assets, creating new revenue streams to support investments in green shipping. International collaboration, especially with India, marks an important milestone, as several countries take the lead in zero-emission shipping and green technology solutions. Policy interventions are crucial to promoting the adoption of green technologies, addressing space and weight constraints of battery systems, and establishing regulations for the early stages of carbon capture systems. By combining financial innovation with regulatory support, the transition to sustainable shipping can be accelerated.



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Panel Discussion 5: Technology Solutions for Existing Ships, Including Concepts of Carbon Capture

Moving forward from GSC- 2022, the Green Shipping Conclave-2025 will explore the transformative role of advanced technological solutions in achieving global energy transition goals within the maritime sector. The focus will be on the sector's potential to reduce carbon emissions, highlighting innovative progress made by technology companies.

The panel will discuss the shift towards hybrid propulsion technologies and the integration of green systems in smaller vessels, as well as India's growing capacity to manufacture biofuel-approved engines and electromobility technology. While the high costs and space limitations of green systems, alongside the early development of carbon capture technologies, present challenges, policy interventions and domestic manufacturing are essential to overcome these barriers and support sustainable maritime operations.

Additionally, the Conclave will prioritize Indian shipyards capable of constructing environmentally sustainable vessels and retrofitting existing ships with alternative technologies within specified timelines and cost-effectively. These efforts align with the 'Make in India' initiative, aiming to lower transition costs while promoting domestic capabilities in green shipping technologies.



Photo Courtesy: DGS-INMARCO Green Shipping Conclave -2022



Photo Courtesy: DGS-INMARCO Green Shipping Conclave -2022



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CEO and Policy Maker Forum: Opinions of Top Maritime Decision Makers

The panel discussion at the upcoming Green Shipping Conclave will feature two distinct components, focusing on the insights of India's leading shipowners and senior government officials. This structured forum will address critical issues for the maritime sector, emphasizing policy initiatives and operational efficiency in the context of green shipping.

CEO Forum: In the first session, leading Indian shipowners will focus on enhancing operational efficiency for ageing ships and exploring investments in new green technologies. With the 2030 decarbonization targets in mind, the discussion will emphasize the adoption of green retrofit technologies and the need for seafarers to acquire updated skills to adapt to these emerging technologies and alternative fuels, ensuring the global competitiveness of the Indian maritime workforce.

Furthermore, shipowners will discuss the risks of delayed compliance with green shipping regulations and advocate for cargo interests' involvement in long-term solutions. To support the green transition, they will explore financing mechanisms, including the establishment of a dedicated green maritime fund and discuss the relative merits of a Carbon Tax versus cap-and-trade systems. Additionally, they will underscore the importance of India voicing its concerns at international forums like the IMO to ensure fair global decarbonization policies.



Photo Courtesy: DGS-INMARCO Green Shipping Conclave -2022

Policy Maker's Forum: The second session of the forum will see senior government officials reviewing the day's discussions and outlining policy initiatives to support green shipping. They will emphasize the government's role in leading national efforts for green compliance, focusing on regulatory incentives to boost Bio LNG and eFuel production by harnessing India's biomass and solar potential.

The creation of a green maritime fund managed through IFSC will be discussed as a financial solution to mitigate the risks of green transitions. Officials will also explore regulatory measures to ensure fair fees at private ports and assess the potential for developing coastal and inland waterways as sustainable transport options. Additionally, the discussion will highlight India's ambition to become a global hub for green vessel manufacturing and alternative fuel production, supported by initiatives like the PM's Gati Shakti program and the National Logistics Policy. A clear roadmap for GHG reduction, including ship age norms and collaboration across the shipping value chain, will be seen as crucial steps toward this goal. Lastly, the panel will focus on upgrading shipyards and enhancing ship repair services, alongside integrating maritime manufacturing into the PLI scheme to further bolster green shipping initiatives.



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Other Highlights of the Green Shipping Conclave- 2025

Indian Ocean Centre of Excellence for Sustainable Maritime Transport (IOCE-SMaT):

The Indian Ocean Centre of Excellence for Sustainable Maritime Transport (IOCE-SMaT), spearheaded by the Ministry of Ports, Shipping and Waterways, Government of India, aims to transform the Maritime Training Institute (MTI) in Mumbai into a premier global hub for maritime innovation and sustainability. In partnership with the IMO's Maritime Technology Cooperation Centre (MTCC) network, IOCE-SMaT will drive advancements in digitalization, green technologies, and sustainable maritime practices across India and South Asia. At GSC-2025, Lloyd's Register will unveil the Detailed Project Report (DPR) for stakeholder consultation, marking a significant step towards establishing this world-class Centre of Excellence.

National Green Shipping Policy (NGSP):

The National Green Shipping Policy (NGSP) for India is envisioned as a comprehensive framework to promote environmental sustainability, innovation, and regulatory compliance within the maritime sector. With India's growing maritime influence, a unified policy is essential to foster responsible and competitive growth while addressing global environmental challenges. During GSC-2025, Lloyd's Register will present a consultative draft of the National Green Shipping Policy (NGSP) for stakeholder engagement and for consideration by the Government of India, shaping the future of sustainable maritime operations in India.

Technical Paper Presentation Forum:

The Technical Paper Presentation Forum at GSC-2025 will offer a dynamic platform for professionals, academics, researchers, and students to showcase groundbreaking research and innovative solutions in the maritime sector. This forum encourages knowledge exchange and collaboration, with a focus on green shipping, cutting-edge technologies, and sustainable maritime development. Participants will have the unique opportunity to present their work to industry leaders, policymakers, and peers, driving forward the collective vision of a sustainable maritime future..



Photo Courtesy: DGS-INMARCO Green Shipping Conclave -2022



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Indicative Topics for Technical Paper Presentation

GSC-2025 warmly invites you to contribute to the success of the conference by presenting a technical paper. The topics for presentations and discussions have been thoughtfully curated to address the latest trends and challenges in the maritime industry, offering a platform for innovative insights and solutions.

1. Maritime energy transition landscape
2. Digital transformation and data transparency
3. Autonomy and artificial intelligence in the maritime industry
4. Sustainable Supply Chain Management
5. Financing and Investment in Green Shipping
6. Human Element and Workforce Development
7. Technological Advancements in Ship Design
8. Green Port Initiatives
9. Green Initiatives in Inland and Coastal Transportation
10. Circular Economy in Shipbuilding and Recycling
11. Oil & Gas Industry and Offshore Operations
12. Technological Advancements in Marine Equipment and Materials.

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Green Shipping Conclave 2025

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Subject: Invitation for DGS -IME(I) Green Shipping Conclave 2025: Call for Technical Papers

Dear Sir/Madam,

We cordially invite you to submit technical papers for the forthcoming Green Shipping Conclave 2025, scheduled to be held on January 11, 2025, in Mumbai, India. This event serves as a paramount platform dedicated to addressing the critical challenges and pioneering solutions within the maritime industry, with a specific emphasis on sustainability and green technologies.

The maritime sector is currently at a crucial crossroads, encountering unparalleled challenges and prospects. Swift technological advancements and evolving regulatory frameworks are propelling the industry towards a more environmentally sustainable future. The Green Shipping Conclave 2025 aims to convene maritime professionals, researchers, scholars, and industry specialists to facilitate the exchange of ideas, dissemination of knowledge, and cultivation of collaborative efforts.

The conference will encompass the following key elements:

- An interactive platform facilitating engagement with prominent industry leaders
- Opportunities for the delivery of scholarly papers on pertinent subjects
- Panel discussions led by esteemed professionals within the maritime sector
- Exhibitions featuring products and services offered by maritime organizations
- Networking avenues to foster valuable connections

We extend our invitation to contribute to the success of this conference by presenting a technical paper. The topics for paper presentations and discussions have been meticulously curated to align with the prevailing trends and challenges in the maritime industry:

1. Maritime energy transition landscape: -

Explore various strategies and technologies aimed at reducing carbon emissions in shipping.

- Energy transition insights
- The regulatory drivers for energy transition. Achieving carbon neutrality and net-zero emission goals
- Zero Carbon Fuel Assurance. Alternative fuels such as hydrogen, ammonia, and biofuels,
- Carbon capture and storage technologies.
- Reduction of GHG emissions
- Green Corridors
- Innovative energy efficiency technologies
- Fuel cells, wind-assisted propulsion, and nuclear power for shipping

2. Digital transformation and data transparency: -

- Digital transformation in the maritime sector
- Digital solutions for fuel consumption reduction
- Vessel performance and improvement
- Communication, navigation, and route optimisation
- Data-driven approaches for efficiency improvement
- Cyber security incidents and response

3. Autonomy and artificial intelligence in the maritime industry: -

- Emerging autonomy technologies
- Collision avoidance systems,
- Remote monitoring tools and Workload management software
- Digital twins
- AI for decision-making, maritime safety, and performance forecasting
- Use of sensors and IoT devices for real-time monitoring
- Blockchain technology in shipping logistics

4. Sustainable Supply Chain Management: -

- sustainable practices that can be integrated into the maritime supply chain, from Sourcing raw materials to delivering finished goods.
- Green logistics, eco-friendly packaging
- Role of technology in supply chain transparency.
- Regulatory challenges
- System reliability and maintenance

5. Financing and Investment in Green Shipping: -

- Sustainable use of ocean resources
- Financial aspects of transitioning to sustainable maritime operations

- Role of green bonds and investment funds
- Public-private partnerships.
- Support from financial institutions for the industry's green transformation.
- Maritime economics and ship financing
- International, regional, and national maritime policies
- Legal developments and their impact on shipping trade
- Developments in P&I, H&M underwriting, and salvage
- New IMO regulations and their impact on charter party contracts

6. Human Element and Workforce Development: -

- Training and education in sustainability within the maritime workforce.
- Initiatives to upskill seafarers and shore-based personnel in green technologies.
- Women empowerment and gender diversity
- Criminalisation of seafarers and mental fatigue

7. Technological Advancements in Naval Ship Design: -

- Design requirements for combat and non-combat ships
- Modernisation of naval ship machinery
- Underwater noise reduction
- Operational criteria for naval ships
- Innovative power systems and energy storage

8. Green Port Initiatives: -

- Role of ports in promoting sustainability
- Creation of green ports
- Implementation of shore power, green infrastructure, and waste management systems.
- Planning and management of modern ports
- Environmental protection of ports
- Investment in port infrastructure for alternative fuels
- Successful case studies from ports around the world that have adopted green practices

9. Green Initiatives in Inland and Coastal Transportation: -

- Environmental performance of inland and coastal shipping
- Sustainable shipping initiatives
- Innovative ship design and operation

10. Circular Economy in Shipbuilding and Recycling: -

- Discuss the circular economy principles as applied to the maritime industry.
- Innovations in ship design and building.
- Sustainable ship design.
- Maintenance and repairs.
- Fleet management.
- End-of-life ship management.
- Future of green ship recycling.

11. Oil & Gas Industry and Offshore Operations: -

- Advances in the offshore and gas industry
- Challenges in hydrocarbon exploration and production
- Environmental and safety considerations

12. Technological Advancements in Marine Equipment and Materials: -

- Innovative materials and manufacturing techniques
- Advances in marine engines and shipboard machinery
- Digital era and 3D printing

We seek your expertise in contributing to the technical papers and your invaluable support for the success of this conference. Should you be unable to present a paper, we would appreciate it if you could propose an appropriate alternative from your organisation.

Please send your paper's synopsis and the duly filled paper presentation form to gsc@imare.in by 31st October 2024. Selection of synopsis will be informed by 15th November 2024 & final paper to be sent by 10th December 2024.

We look forward to your positive response and active participation.

Yours faithfully,

Shobhit Kapoor
Head, Technical Sub Committee
IME(I) Mumbai Branch

Gopi Krishna C.
E & SS-cum-DDG (Tech)
Directorate General of Shipping-Mumbai

Enclosed:

- (1) Information Brochure
- (2) Paper Presentation Form
- (3) Green Shipping Conclave 2025 Technical Paper Template



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Green Shipping Conclave 2025

Paper Presentation Form



To,

The Chairman,
IME(I) Mumbai Branch
1012, Maker Chamber V, Nariman Point,
Mumbai – 400 021.

Tel: 9930977647/ 99203 08893
email: gsc@imare.in

Dear Sir,

With reference to your communication regarding presentation of papers at the Conference,

I, _____ in my individual capacity / on behalf of my company

_____ would like to present paper on _____

I understand

- Each author would be allowed a maximum of 10 minutes for presentation and 05 minutes (total 15 minutes) for question / answers in each session.
- All expenses of travel and stay etc. would be at my / my company's account.
- A synopsis of 500 words is required by 31st October 2024 and the final paper, if selected by 10th December 2024. I will be informed of acceptance of synopsis by 15th November 2024.
- I have to send my brief resume (max half page with key bullet points) and photograph.
- I would require following aids for my presentation.

a. _____

b. _____

c. _____

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Authorized Representatives / Author (Signature)

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Company: _____

Address: _____

Phone: _____ Whatsapp No: _____

Email: _____